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ABSTRACT

The National Institute of Child Health and Human Development (NICHD) Study of Early Child Care has enrolled more than 1,300 children and followed most of them through the first 7 years of their lives to determine how variations in child care are related to their development. This booklet describes the study and its findings. Findings are divided into four main categories. The first set of descriptive findings paints a picture of the care that children in the NICHD study are receiving. This includes a look at the "regulable" characteristics of care, such as the adult to child ratio, the patterns of care used during the first year of life, and child care for children in poverty. Other categories include the role of family for children in child care, child care and its relationship to children's development, and child care and children's relationship with their mothers. Within these categories are findings related to the extent to which child care experiences are associated with different developmental outcomes for low-income children compared to more affluent children, and for minority children compared to white non-Hispanic children. There are also comparisons of current and past child care experiences as predictors of children's performance or mother-child interaction. Main findings of the study include that in general, family characteristics and the quality of the mother's relationship with the child were stronger predictors of children's development than child care factors, but that some child care characteristics or experiences do contribute slightly but significantly to children's development. (EV)

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The NICHD Study of

Early Child Care

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About the NICHD Study of Early Child Care

The NICHD Study of Early Child Care is the most comprehensive child care study conducted to date to determine how variations in child care are related to children's development. In 1991, a team of NICHD-supported researchers enrolled 1,364 children in the study and have now followed most of them through the first seven years of their lives. Over the past two years, the research team has presented findings on the relationship between child care and [illegible] development through the age of three, and will continue to analyze the information they have gathered from the 10 child care study sites across the U.S.

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is becoming a fact of life for many American families. As increasing numbers of women enter and remain in the work force after pregnancy, and more are single parents, more families are relying on non-maternal care for their infants and children. In 1975, 39% of mothers with children under six years of age worked outside the home; today, 62% of mothers do so (Bureau of Labor Statistics). Since most of these mothers return to work in their child's first three to five months of life, their children spend much of their early lives in a variety of child care situations.

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In the wake of this increasing use of early child care, parents, psychologists, and policy makers began questioning the relationship between early child care and children's development, asking fundamental questions about the effects of early child care. Some child care experts have argued that child care poses risks for infants because healthy development requires care giving by a single person. Yet others have said that children may thrive in child care — of high quality. Some contend that child care arrangements do not affect development — unless the care is of very poor quality.

NICHD Study of Early Child Care Sites

These differing views about the relationship between early child care and children's development have been argued for many years, but no one team or investigator had, until now, examined a large diverse group of children prospectively from birth to find out how variations in family characteristics, in child characteristics, and in child care characteristics influence developmental outcomes in the same children over several years.

Aware of the growing use of child care and the increasing public and congressional concern about this issue, the National Institute of Child Health and Human Development (NICHD), National Institutes of Health, U.S. Department of Health and Human Services, set out to develop a comprehensive, longitudinal study about the relationship between the child care experience of children and their development over time. In 1989, the NICHD issued a request for applications (RFA), inviting the scientific community to participate with NICHD in a multi-site cooperative research endeavor, now known as the NICHD Study of Early Child Care. **The goal of the study: to answer the many questions about the relationship between child care experiences and characteristics — and children's developmental outcomes.** Child care characteristics include the age of entry into care, quantity of care, stability of care, quality of care, and type of care; other aspects of child care, such as the provider's education and training, the adult to child ratio, group size, safety and health issues, were also included. After a thorough scientific review of the applications, the NICHD selected a research team located at

universities across the U.S. and at the NICHD, together providing multiple perspectives on and interests in child care research. This team of researchers worked cooperatively to design and implement the study, and in 1991, enrolled a very diverse sample of children and their families at 10 locations across the U.S.

Scientific decisions regarding the implementation of the study were made by the Steering Committee of the NICHD Study of Early Child Care. The committee includes the researchers from the data collection sites at the universities across the country, the NICHD Scientific Study Coordinator/researcher, as well as the directors of the data coordinating and analysis centers, and is chaired by an independent developmental psychologist, who is not one of the study investigators. An ad hoc Advisory Panel was also created to review the research plan and implementation.

The NICHD Study of Early Child Care is the most comprehensive child care study conducted to date in the U.S. and is characterized by a complex and detailed study design which takes into account **many variables**, including characteristics of the child care **and** the family environment. Researchers are **assessing children's development using multiple methods** (trained observers, interviews, questionnaires and testing) and measuring many **facets** of children's development (social, emotional, intellectual, language development, behavior problems and adjustment, and physical health). Finally, researchers are following the children, measuring their development at frequent intervals during their first seven years of life.

Currently, the researchers are analyzing the information they have collected to determine the relationship between child care and children's development, taking into account not only the child care environment, but the home and family, as well as individual differences among children.

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What Questions Will the NICHD Study of Early Child Care Answer?

A major way this study contributes to our understanding of the relationship between child care and children's development is by moving beyond the global questions about whether child care is good — or bad — for children. Instead, the study focuses on *how the different aspects of care* — such as quantity and quality — are related to various aspects of children's development. More specifically, researchers are evaluating the relationship between child care and children's cognitive and language development, children's relationship with their mothers, and their self-control, compliance and problem behaviors, as well as peer relations and physical health.

The Study will Answer These Questions:

- Which **family characteristics** influence how early children are placed in care, how many hours they spend in care, how many care arrangements they are experiencing over time, and the quality of care they receive?
- What is the relationship between the aspects of child care that are **possible to regulate** and the quality of care children receive in child care?
- Is the **family influence** on children's development diminished when children are in extensive child care — as compared to being cared for exclusively by their mothers?
- Is the **average number of hours** that children spend in child care associated with their psychological development or their physical health?
- Is the **quality** of the child care experience associated with the psychological or health development of children?
- Are past experiences in child care predictive of later psychological or health outcomes?
- Is the age of entry into care, the number of care arrangements, and type of care associated with children's psychological development or their physical health?
- Is the relationship between child care and children's development different for disadvantaged and/or for minority children?
- Are there certain time periods in children's lives in which child care experiences are more important for their psychological or health development?

Ethnicity of Children Enrolled
The NICHD Study of Early Child Care, 1991

A total of 1,364 children and their families from diverse economic and ethnic backgrounds across the United States were enrolled in the study beginning in 1991. Recruited from 10 locations throughout the country, the families vary in socioeconomic background, race, and family structure. About 76% of the families are white of non-Hispanic origin, nearly 13% of families are black, 6% are of Hispanic origin, 1% are Asian/Pacific Islanders/American Indians, and 4% are other minorities, mirroring the United States population overall. This diversity allows the research team to investigate the possibility that children from different ethnic backgrounds may be affected in different ways by the different characteristics of child care.

In addition to ensuring that the families reflected racial diversity, the research team included mothers and their partners with a wide variety of educational attainment. About 10% of the mothers had less than a 12th grade education, slightly over 20% of the mothers had a high school diploma, one-third had some college, 20% had a college degree, and 15% had a graduate or professional degree (compared with 24%, 30%, 27%, 12% and 6%, respectively, in the U.S. population).

In terms of socioeconomic status, families in the study had a mean income of $37,781, as compared to a mean income of $36,875 for families in the U.S. About 20% of the study participants were receiving public assistance.

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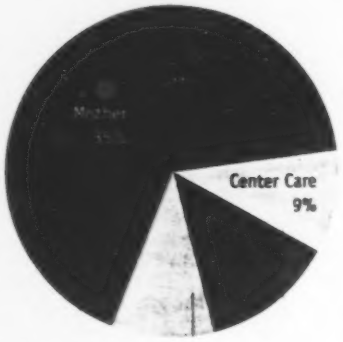
What Type of Child Care Was Used by Study Participants?

Type of Child Care Used (6 Months of Age)



In the study, parents — rather than the researchers —- selected the type and timing of child care that their children received, and, in fact, families were enrolled in the study without regard to their plans for child care. Children were placed in a wide variety of child care settings: care by fathers, other relatives, in-home care givers, child care home providers, and center-based care. These child care situations varied, from a formally trained nanny caring for a single child — to a center-based program with a group of children. Close to half of the infants were cared for by a relative when they first entered care, but there was a discernible shift towards reliance on child care centers and family day care homes during the course of, as well as after, the first year of life.

Type of Child Care Used (36 Months of Age)

Just as there was no attempt by the study to control or select for type of care, there was no attempt to control or select for quality of care. Quality was measured in several ways and was highly variable, but since there is no study that has assessed quality of child care on a national basis, there is no way to judge precisely how representative the care in this study is of child care nationally.

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What Information about Child Care, the Family, and the Child did Researchers Consider?

In this study, researchers are asking about the unique contribution that child care characteristics and experiences make to children's development — above and beyond the contributions made by the family and child characteristics.

The research team collected and studied many different types of information about many characteristics of the children and their environment. The researchers assessed the **child care characteristics**, such as the adult to child ratio, the group size, and the child care experience of each child, including the quality of care and number of hours spent in care, the age of entry into care, as well as the number of different child care settings a child entered simultaneously and over time. **Family characteristics** were also assessed, including the family's economic situation, family structure (single parent vs. partnered parent), and maternal vocabulary (a proxy for intelligence). Other family variables included in the analyses were the mother's education, her psychological adjustment (as measured by a questionnaire) and her child rearing attitudes, the quality of mother-child interaction, and the extent to which the home environment contributed to the optimal development of children. Various aspects of individual **children**, such as their gender and their temperament, were also considered.

In this study, researchers are asking about the unique contribution that child care characteristics and experiences make to children's development — above and beyond the contributions made by the family and child characteristics. Previous studies have established that, in general, the quality of care children get in the family environment is very similar to the quality they receive in child care. Therefore, the research team focused on determining the added contribution of child care to children's development.

Because the data were analyzed many different ways to answer the many different research questions about children's development, not every variable was included in each analysis; for each summary of findings reported below, the list of relevant variables used is noted.

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The NICHD Study of Early Child Care:

What Have We Learned?

Using multiple sources of information (parents, child care providers, trained observers and testers), the research team collected detailed information about the family environment, the child care environment, and children's development, as well as their physical growth and health status over their first seven years.

Several articles about the study have been published to date in scientific journals, listed in the bibliography (appended), and other findings have been presented at scientific meetings and are now being prepared for publication. These articles, co-authored by the research team of the NICHD Study of Early Child Care, cover a wide range of research questions.

The research findings can be categorized into **four main categories.** The first set of **descriptive findings** paints a picture of the care that children in the NICHD study are receiving. This includes a look at the "regulable" characteristics of care, like the adult to child ratio, the patterns of care used during the first year of life, and child care for children in poverty. Other categories include the **role of family** for children in child care, **child care and its relationship to children's development**, and **child care and children's relationship with their mothers.** Within these categories are findings related to the extent to which child care experiences are associated with different developmental outcomes for low income children, as compared to more affluent children, and for minority children, as compared to white, non-Hispanic children. There are also comparisons of current and past child care experiences as predictors of children's performance or mother-child interaction.

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Findings from the NICHD Study of Early Child Care

1. The history of child care experiences across the first year of life

2. Poverty as a predictor of child care experience

3. Child care characteristics that can be regulated and their relationship to positive care giving experienced by infants

4. The association between family characteristics and age of entry into care, the number of care arrangements, and the quantity and quality of nonmaternal care

5. A comparison of family influences on children in less than 10 hours of nonmaternal care with those in more than 30 hours of nonmaternal care

6. The association between child care and children's attachment to their mother when they are 15 months old

7. The association between child care and mother-child interaction over the first three years of life

8. The association between child care and children's compliance, self-control and problem behavior over the first three years of life

9. The association between child care and children's cognitive and language development over the first three years of life

10. The association between indices of quality of care that can be regulated and the social and cognitive development of children in the first three years of life

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A Description of Child Care in the NICHD Study

1 The History of Child Care Experiences Across the First Year of Life

The number of hours children spent in care varied. On average, each child in care received 33 hours of care per week, but this varied with ethnicity of the child and the family. White non-Hispanics averaged the fewest hours of care and black non-Hispanics the most; white Hispanics and others fell in between.

In general, most infants experienced more than one type of child care arrangement during the first year. When they first entered care, close to half of the infants were cared for either by a father/partner or grandparent, just over 20% were placed in a child care home, and only 8% were placed in center care. Most infants were placed in care prior to 4 months of age.

Overall, the findings indicate a very high reliance on infant care, with very early entry into care. Most infants spent the first year of their lives not in center care, but in less formal care arrangements.

2 Does Poverty Predict the Child Care Experience?

Nearly 35 percent of the families and children included in the study were living in poverty or near-poverty. Poverty was defined using the income-to-needs ratio, a standard measure of a family's economic situation (U.S. Department of Commerce). This is computed by taking the family income, exclusive of federal aid, and dividing this by the federal poverty threshold for that family (the federal poverty line for a family of four in 1991 was $13,924). Of the families in the study, 16.7% had an income-to-needs ratio below 1.0, and 18.4% had an income to needs ratio between 1.0 and 1.99.

The research team asked if poverty during the child's first year of life was a predictor of age of entry into care, type of care experienced, and quantity or quality of care used. Families and children in poverty (income-to-needs ratio<1.0) were compared to those fami-

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lies and children in near-poverty (income-to-needs ratio of 1.0-1.99) or more affluent families, to determine if poverty determined the characteristics of the child care used.

With regard to the age of entry into care, families who moved in and out of poverty — known as transitory poverty — were most likely to place their infants in child care very early, before 3 months of age. The research team hypothesized that this early entry into care is due to the fact that extensive maternal employment may be required to pull the family out of poverty. Infants from families who were consistently poor and receiving public assistance over 15 months were less likely to enter care early or to be in any care at 15 months of age.

Families living in poverty were less likely to use any child care than other families, but if they did, they used just as many hours of care as families from other income groups. Children who were not in care by 15 months of age had mothers with the lowest level of education and were from the largest families. These families also tended to experience persistent poverty.

In general, children from families in poverty who were cared for in home settings (by a child care home provider or family member) received relatively low-quality care. Children from families living in poverty who attended center care received better quality care — comparable to the center care received by affluent children. Children in near-poverty (income to needs ratio between 1.00 –1.99) received **lower quality of center care** than children in poverty, presumably because those in near-poverty do not qualify for the subsidized care that those in poverty do.

In sum, partly because in the first year of life most infants are not in center care, infants from poor and near-poor families are more likely to receive relatively lower quality care.

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Child Care Characteristics that Comprise High Quality of Care

The research team studied the different child care settings to determine those characteristics that contributed to positive care giving, and thus, high quality care. Positive care giving is measured by observing and documenting the frequency of interaction, and then rating the quality of the interaction. The child care settings were also measured both in terms of their "regulable" characteristics, or guidelines recommended by governments, such as group size, child-adult ratio, and physical environment; and of the care giver's characteristics, such as formal education, specialized training, child care experience, and beliefs about child rearing.

The research team found that children in situations with safer, cleaner, more stimulating physical environments and smaller group sizes, lower child-adult ratios, and care givers who allowed children to express their feelings and took their views into account, also had care givers who were observed to provide more sensitive, responsive, and cognitively stimulating care — quality of care that was expected to be associated with better developmental outcomes for children.

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4 Demographic and Family Characteristics: Do They Predict the Type of Care Used?

One of the objectives of the study was to determine the extent to which demographic and family variables predict the type of care that is used by each family. The research team examined three sets of variables, including **demographic characteristics** (ethnicity, maternal education, and family structure), **economic characteristics** (maternal and nonmaternal income) and **family quality characteristics** (maternal attitudes and beliefs and the quality of the home environment) to determine their relationship to the age of entry, and type, quantity and quality of care.

Family economics accounted primarily for both the **amount, the age of entry into care** and **type and quality of care** infants received. Families more dependent on a mother's income placed their infants in child care at an earlier age, and used more hours of care than families less dependent on a mother's income. Employed mothers who earned the highest incomes were most likely to place their infants in early care at 3-5 months, and were most likely to use in-home child care for the first 15 months. Children from families at the lowest and highest income levels received higher quality of care than those in the middle.

Beyond the economic factors (maternal and family income), mothers who believed that their children would do well when they were employed chose to begin child care in infancy and to use more care. Those who thought their employment posed risks to their child, tended to choose informal family-based or in-home care; those mothers who thought employment posed low risks to their child were more likely to use formal care in child care centers or homes.

5 Family Influences on Children in Extensive Child Care and Children in Nearly Exclusive Care by their Mother

Another objective of the study was to compare the influence of family on children's development for children both in nearly exclusive care by their mother (less than 10 hours of child care per week) and children in extensive child care (more than 30 hours of child care per week).

Family characteristics, including the family income and the mother's education, were strong predictors of children's outcomes —- for both those children in nearly exclusive maternal care, and those children in extensive child care. These findings suggest that the influence of families on children's development is not significantly reduced or changed by extensive, nonparental care.

6 The Relationship between Child Care and Mother-Child Attachment

The research team examined several child care variables, including the amount of care, the age of entry into care, and the type of care, to determine how these factors were related to infants' attachment to their mothers. Attachment is the sense of trust the infant has in his or her mother.

The research team found that child care in and of itself neither adversely affects nor promotes the security of infants' **attachment** to their mothers at the 15-month-age point. Researchers **measured** infants' attachment to their mothers using a standard 30-minute procedure of separating and reuniting the mother and child.

Certain child care conditions, in combination with certain home environments, did increase the probability that infants would be insecurely attached to their mothers. Infants who received either poor quality of care, more than 10 hours per week of care, or were in more than one child care setting in the first 15 months of life, were more likely to be insecurely attached, only if their mothers were lower in sensitivity. For example, when both the mothers and the child care providers fell in the bottom 25% of the sample in terms of providing sensitive care to the child, the likelihood that the children would be securely attached was only 45%, in contrast to those with more sensitive mothers and care givers, among whom 62% were securely attached.

7 Child Care and the Quality of the Mother-Child Interaction

In addition to analyzing children's attachment to their mothers, the research team also studied the relationship between child care and the mother-child interaction, or interchanges between the mother and child. Maternal behaviors that were studied pertained to mothers' sensitivity, positive involvement and negativity. Children's behaviors were observed

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to assess their involvement. Researchers analyzed child care quality, quantity and family characteristics (maternal education and income) to determine their relationship to the mother-child interaction when the children were 6, 15, 24, and 36 months of age.

Mother-child interaction was evaluated by videotaping mother and child together during play and at home and observing the mother's behavior toward the child to see how attentive, responsive, positively affectionate or restrictive the mother was when faced with multiple competing tasks (i.e., monitoring child, talking with interviewer).

Researchers found that the quality and amount of child care had a small but statistically significant relationship to the quality of the mother-child interaction. An increased **amount** of child care was modestly associated with less sensitive and less engaged mother-child interactions. Throughout the first three years of the children's lives, spending more hours in nonmaternal care was associated with somewhat less positive behaviors of the mother toward the child. Toddlers in longer hours of child care were slightly less engaged with their mothers.

The association that was found between the full history of the quantity of care and mother-child interaction led the research team to ask if the quantity of care in the earlier time periods were associated with subsequent qualities of mother-child interaction. The researchers found that more hours of care in the first 6 months of life were associated with lower maternal sensitivity and lower child positive engagement at 36 months. However, a combination of family and home characteristics, including income, maternal education, two parent family status, maternal separation anxiety, and maternal depression, predicted the quality of mother-child interaction more than the children's experiences in child care.

Higher quality child care (positive provider-child interaction) modestly predicted greater involvement and sensitivity by the mother (at 15 and 36 months) and greater positive engagement of the child with the mother (at 36 months). Low-income mothers using full-time higher quality care had higher positive involvement at 6 months than low-income mothers not using care or those using lower-quality full-time care.

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8 Child Care and Compliance, Self-Control and Problem Behavior

Child care characteristics (quality, quantity, age of entry into care, type and stability) and family characteristics were studied to determine how they were related to children's self-control, compliance and problem behavior. Researchers found that characteristics of the family — particularly the sensitivity of the mother — were stronger predictors of children's behavior than their child care experience.

Researchers determined that such child care characteristics were, at best, modest predictors of children's problem behavior, compliance and self-control. Child care **quality** was the most consistent predictor of children's behavior. Children in care receiving more sensitive and responsive attention had fewer caregiver-reported problems at age two and three.

Although **more hours in care** during the first two years predicted greater caregiver-reported problems at age two, these effects disappeared by age three. Children who spent more time in group **arrangements with more than three other children had fewer behavior problems** (as reported by the caregiver) **and were observed to be more cooperative** in child care.

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Summary Table of Findings, Child Care and Children's Development

	Attachment	Parent-Child Relationships	Cooperation	Problem Behaviors	Cognitive Development and School Readiness	Language Development
Quality	●	●		+	+	+
Amount	●	●		●		
Type			●	●	+	+
Stability	●		●			

* Results after taking into account all family and child variables.
\+ Consistent effects ● Effects under some conditions

9 Child Care and Children's Cognitive and Language Development in the First Three Years of Life

Another main goal of the study was to determine if child care characteristics (quality, number of hours in care, type, stability) predict children's cognitive and language development, as well as school readiness. Children's cognitive development and school readiness were measured using standardized tests; language development was assessed using standardized tests and maternal reports. Quality child care was defined as positive care giving and language stimulation — how often care givers spoke to children, asked, and responded to children's questions.

The **quality** of child care over the first three years of life is consistently but modestly associated with children's cognitive and language development. The higher the quality of child care (more positive language stimulation and interaction between the child and provider), the greater the child's language abilities at 15, 24, and 36 months, the better the child's cognitive development at age two, and the more school readiness the child showed at age three.

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However, again, the combination of family income, maternal vocabulary, home environment, and maternal cognitive stimulation were stronger predictors of children's cognitive development at 15, 24, and 36 months of age and of language development at 36 months.

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In terms of cognitive development, researchers found no benefit for children in exclusive care by their mother. More frequently than not, children in exclusive maternal care scored on cognitive and language measures similarly to children in child care. The few differences that did emerge on the cognitive and language outcomes between children in exclusive maternal care and children in child care showed that high quality care child care provided an advantage and low quality child care a disadvantage in comparison to exclusive maternal care. Among children in care for more than 10 hours per week, those in center care, and to a lesser extent, those in child care homes, performed better on cognitive and language measures than children in other types of care, when the quality of the care giver-child interaction was taken into account. Child care experiences did not predict differently the cognitive, language or school readiness level of children from varying income groups or ethnic backgrounds.

10 Characteristics of Child Care That Can Be Regulated and Child Development

Another objective of the study was to determine the relationship between the "regulable" aspects of child care centers and children's development. The center care regulable aspects included in the analysis were the child-staff ratio, the group size, teacher training, and the teacher education, as recommended by professional organizations of educators, pediatricians and public health professionals.

The research team found that most child care center classes did not meet all four recommended guidelines for child-staff ratios, group sizes, teacher training, and teacher education. Children in centers that met more guidelines had better language comprehension and school readiness at 36 months of age. They also had fewer behavior problems at 24 and 36 months. Children in classes that met none of the guidelines fell below average in their performance on these tests.

Summary

Early child care experiences for children do matter.

The NICHD Study of Early Child Care has enrolled more than 1,300 children and followed most of them through the first seven years of their lives to determine how variations in child care are related to their development. Scientific papers to date focus on the children's first three years of life. The child care settings children were placed in were selected by their families, based on the availability and affordability of child care in their communities; children were not randomly assigned to different types, amounts, or quality of care. The families were representative of the U.S. population as a whole on many demographic features.

In the NICHD study, and in the families across the nation, the quality of the family circumstances and family environment strongly predict care they choose for their children. Therefore, the research team focused on determining the **unique contribution** of child care to the development of children, over and above the important and well-recognized association between family characteristics and circumstances and children's developmental outcomes.

The findings from this study will provide some answers to the many questions about child care. We now have a picture of what child care looks like for many American families — a snapshot of how often and how early children are placed in care, as well as the type of child care arrangements many families use today. The researchers have also looked at the relationship between family characteristics and children's development for children in extensive child care — and those in nearly exclusive maternal care. They have assessed whether family characteristics predict the child care experience their infants and toddlers receive. Finally, the researchers have examined the child care characteristics and their relationship to children's intellectual development, language development, and school readiness, as well as the association between child care characteristics and the mother-child relationship.

The research team looked for the added — or subtracted — value of child care to children's development, above and beyond the contribution made by the family and individual child characteristics. In general, family characteristics and the quality of the mother's relationship with the child were stronger predictors of children's development than child care factors. This held true for families whether their children were in extensive child care or cared for primarily by their mothers.

Researchers found that some child care characteristics or experiences do contribute, though only slightly, to children's development, as can be seen in the Summary Table of Findings to date (p. 18) from the NICHD Study of Early Child Care. The observed effects of child care were generally modest in size, but not insignificant.

Higher quality care was found to be related to:

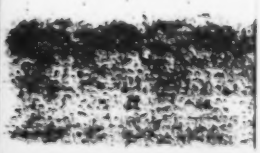
- Better mother-child relationships
- Lower probability of insecure attachment in infants of mothers low in sensitivity
- Fewer reports of children's problem behaviors
- Higher cognitive performance of children in child care
- Higher children's language ability
- Higher level of school readiness

The converse is also true. Lower quality care predicted:

- Less harmonious mother-child relationships
- A higher probability of insecure mother-child attachment of mothers who are already low in sensitivity to their children
- More problem behaviors, lower cognitive and language ability and lower school readiness scores

Higher quantity of care or a history of more hours in child care was associated with:

- Less harmonious mother-child interaction
- More reported problem behaviors when the children were two years old
- Higher probability of insecure attachment in infants of mothers low in sensitivity



Lower quantity of care is associated with:

- Better outcomes for mother-child interaction
- Lower probability of insecure attachment of infants of mothers low in sensitivity
- Fewer problem behaviors at 24 months.

Center care is associated with better cognitive and language outcomes and a higher level of school readiness, as compared to outcomes in other settings with comparable quality of care. Group care is associated with fewer reports of problem behavior at age three.

Instability of care, as measured by the number of entries into new care arrangements, was found to be associated with higher probability of insecure attachment in infancy if mothers were not providing sensitive and responsive care.

Most of the children in the study are now turning seven years old and are in the first grade. Researchers will continue to analyze the data over the next several years, releasing additional research findings at professional meetings and in scientific journals, to answer some of the remaining questions about the relationship between child care and children's development.

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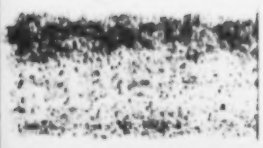

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